

REMARKS

Claims 1 and 37 have been amended to correct the minor informality noted by the Examiner. Claims 1, 2, 11-16, 28-31, 37, 43-45, 49-51 and 65 are pending and under consideration. Claims 1 and 37 are the independent claims. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §112:

Claims 1, 2, 11-16, 28-31, 37, 43-45, 49-51 and 65 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants respectfully traverse this rejection for at least the following reason.

Regarding the rejection of independent claims 1 and 37, it is noted that claims 1 and 37 have been amended to correct the minor informality noted by the Examiner.

Accordingly, Applicants respectfully request that the rejection of independent claims 1 and 37 be withdrawn.

Furthermore, it is noted that claims 2, 11-16, 28-31, 43-45, 49-51 and 65 depend from independent claims 1 and 37, and claims 1 and 37, as amended, fully comply with the requirements of 35 U.S.C. §112, second paragraph. Therefore, Applicants respectfully request that the rejection of claims 2, 11-16, 28-31, 43-45, 49-51 and 65 be withdrawn at least because of their dependence from claims 1 and 37.

REJECTIONS UNDER 35 U.S.C. §102:

Claims 1, 2, 11, 12, 65, 37 and 43-44 are rejected under 35 U.S.C. §102(b) as being anticipated by Tominaga et al. (U.S. Patent 5,252,370).

Applicants respectfully traverse this rejection for at least the following reason.

Regarding the rejection of independent claims 1 and 37, it is noted that claims 1 and 37 recite a multi-layer structure and a master for manufacturing an optical disc, comprising, amongst other novel features, a transformation layer comprising a metal oxide layer formed on the substrate, wherein a volume of a portion of the transformation layer irradiated by a laser beam spot changes when a temperature of the portion exceeds a predetermined temperature

forming a pit pattern on the master, the pit pattern having a diameter smaller than a diameter of the laser beam spot.

The Office Action notes that Tominaga discloses a dielectric layer formed on the metal oxide layer and a recess formed in the silver oxide layer, which releases O₂ when heated by a laser, thereby changing a volume (column 2, lines 63-65, column 4, lines 10 and column 6, lines 39-51). The Office Action further notes that claims 1 and 37 are product by process claims wherein the patentability of the product does not depend on its method of production and cites MPEP 2113 which indicates that "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process **unless** it can be shown that the **product produced by the process is in some manner measurably distinct from the product produced by another process.**" Therefore, the Office Action recites that claims 1 and 37 do not provide patentable distinction over the prior art.

Initially, Applicants note that the claims are not drawn to a product by process but rather to a product itself, and furthermore, Applicants note that this product differs from the prior art because it has a different structure.

However, assuming *arguendo* that the claims were drawn to a product by process, Applicants also note that MPEP 2113 recites "The **structure** implied by the process steps **should be considered** when assessing the patentability of product-by-process claims over the prior art, especially **where the product can only be defined by the process** steps by which the product is made, **or where the manufacturing process steps** would be expected to **impart distinctive structural characteristics to the final product**. See, e.g., *In re Gamero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)"

In the instant case, claims 1 and 37 recite that the pit pattern has a diameter smaller than a diameter of the laser beam spot. Since the diameter of the formed pit pattern is a structural feature of the claims, it is necessary that the Office Action consider such structural feature.

Therefore, although Tominaga discloses a recording thin film 3 containing iron nitride and evolving gas creating a space 31 or a recess in the recording film 3 (column 2, lines 65-68 and column 3, line 1; column 6, lines 52-58), Tominaga does not teach or suggest the pit pattern having a diameter smaller than a diameter of the laser beam spot, as recited in independent claims 1 and 37.

Accordingly, Applicants note that although the product in the product by process of claims 1 and 37 might seem the same as or obvious from the product of Tominaga, the product recited in claims 1 and 37 is structurally different from the product disclosed by Tominaga.

Accordingly, Applicants respectfully assert that the rejection of claims 1 and 37 under 35 U.S.C. § 102(b) should be withdrawn because Tominaga fails to teach or suggest each feature of independent claims 1 and 37.

As pointed out in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim." Thus, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. Of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987)."

Furthermore, Applicants respectfully assert that the rejection of dependent claims 2, 11, 12, 43, 44 and 65 under 35 U.S.C. § 102(b) should be withdrawn at least because of their dependence from claims 1 and 37 and the reasons set forth above, and because the dependent claims include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 2, 11, 12, 43, 44 and 65 also distinguish over the prior art.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 13, 16, 28-31, 45 and 49-51 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tominaga et al. (U.S. Patent 5,252,370) in view of Esho et al. (U.S. Patent 4,504,548).

Applicants respectfully traverse this rejection for at least the following reasons.

It is noted that claims 13, 16 and 28-31 depend from independent claim 1, and claims 45 and 49-51 depend from claim 37.

As noted above, although the product in claims 1 and 37 might at first glance seem the same as or obvious from the product of Tominaga, the product recited in claims 1 and 37 is structurally different from the product disclosed by Tominaga.

Esho discloses an optical recoding medium which permits information to be written and read by a laser light (column 1, lines 6-10). Esho does not teach or suggest changing a volume of a portion of the transformation layer irradiated by a laser beam spot when a temperature of the portion exceeds a predetermined temperature forming a **pit pattern on the master, the pit pattern having a diameter smaller than a diameter of the laser beam spot**, as recited in

independent claims 1 and 37.

Accordingly, Esho fails to cure the deficiencies of Tominaga and thus fails to teach or suggest the features recited in independent claims 1 and 37 from which claims 13, 16, 28-31, 45 and 49-51 depend.

Therefore, Applicants respectfully assert that the rejection of claims 13, 16, 28-31, 45 and 49-51 under 35 U.S.C. §103(a) should be withdrawn because neither Tominaga nor Esho, whether taken singly or combined, teach or suggest each feature of independent claims 1 and 37 from which claims 13, 16, 28-31, 45 and 49-51 depend.

Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Tominaga et al. (U.S. Patent 5,252,370) and Esho et al. (U.S. Patent 4,504,548) and in view of Shiratori et al. (U.S. Patent 5,648,134).

Applicants respectfully traverse this rejection for at least the following reasons.

It is noted that claim 14 depends from independent claim 1, and as noted above, although the product of claim 1 might at first glance seem the same as or obvious from the product of Tominaga, the product recited in claim 1 is structurally different from the product disclosed by Tominaga. Particularly, it is noted that Tominaga does not teach or suggest anything about the pit pattern having a diameter smaller than a diameter of the laser beam spot.

Esho also fails to teach or suggest anything about the pit pattern having a diameter smaller than a diameter of the laser beam spot, as recited in independent claim 1 from which claim 14 depends.

Shiratori discloses a thermal recording medium in which a local region of a recording layer is heated to a predetermined temperature to change the state of the local region so that information is recorded or erased and, more particularly, to an optical recording medium capable of recording information by irradiation of a light beam (column 1, lines 10-17). It is noted that Shiratori does not teach or suggest anything about the pit pattern having a diameter smaller than a diameter of the laser beam spot.

Accordingly, Shiratori also fails to cure the deficiencies of Tominaga and Esho.

Therefore, Applicants respectfully assert that the rejection of claim 14 under 35 U.S.C. §103(a) should be withdrawn because neither Tominaga nor Esho nor Shiratori, whether taken singly or combined, teach or suggest each feature of independent claim 1 from which claim 14

depends.

Claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over Tominaga et al. (U.S. Patent 5,252,370) and Esho et al. (U.S. Patent 4,504,548) and in view of Kondo et al. (U.S. Patent 6,693,873).

Applicants respectfully traverse this rejection for at least the following reasons.

It is noted that claim 15 depends from independent claim 1, and as noted above, neither Tominaga nor Esho, whether taken singly or combined, teach or suggest the novel features of independent claim 1. Particularly, it is noted that neither Tominaga nor Esho teaches or suggests the pit pattern having a diameter smaller than a diameter of the laser beam spot.

Kondo discloses an information recording medium and a manufacturing method thereof, wherein a reproduced signal in high output and high quality can be obtained from the information recording medium and address information can be read out accurately from the information recording medium even though the information recording medium is used by irradiating a laser beam on the surface that is opposite to the substrate (column 3, lines 12-21).

Therefore, it is noted that Kondo does not teach or suggest the pit pattern having a diameter smaller than a diameter of the laser beam spot.

Accordingly, Kondo also fails to cure the deficiencies of Tominaga and Esho.

Therefore, Applicants respectfully assert that the rejection of claim 15 under 35 U.S.C. §103(a) should be withdrawn because neither Tominaga nor Esho nor Kondo, whether taken singly or combined, teach or suggest each feature of independent claim 1 from which claim 15 depends.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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